

Nos. 2015-1769, -1770, -1771

**United States Court Of Appeals
for
The Federal Circuit**

INTELLECTUAL VENTURES I LLC,
Plaintiff Appellant,

v.

SYMANTEC CORP.,
Defendant-Cross-Appellant,

TREND MICRO INCORPORATED, TREND MICRO, INC. (USA),
Defendants-Appellees.

Appeal From The United States District Court For The District Of Delaware
Case Nos. 10:1067 (LPS), 12:1581 (LPS)
Chief Judge Leonard P. Stark

BRIEF OF AMICI CURIAE INTELLECTUAL PROPERTY PROFESSORS
AND OTHER ACADEMICS IN SUPPORT OF NO PARTY AND
FOR REVERSAL, in part, OF THE DISTRICT COURT

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I. CERTIFICATE OF INTEREST

Counsel for Intellectual Property Professors and Other Academics certifies the following:

1. The full name of every party or amicus represented by me is:

Intellectual Property Professors and Other Academics. *See* Appendix A to this brief for a list of names.

2. The name of the real party in interest represented by me is:

None.

3. All parent corporations and any publicly held companies that own 10 percent of the stock of the party or amicus curiae represented by me are listed below.

None.

4. The names of all law firms and the partners or associates that appeared for the party or amicus curiae now represented by me in the trial court or are expected to appear in this Court are:

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Dated: August 28, 2015

Respectfully submitted,

/s/ Jay P. Kesan

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II. FEDERAL RULES OF APPELLATE PROCEDURE 29(a) and 29(c)(5) STATEMENTS

All parties consented to the filing of this brief.

No party's counsel authored this brief in whole or in part; No party or party's counsel contributed money that intended to fund preparing or submitting this brief; and No persons—other than amici curiae—contributed money that was intended to fund preparation of or submission of this brief.

/s/ Jay P. Kesan

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V. STATEMENT OF IDENTITY AND INTEREST

The *amicus curiae* are law professors and other academics who teach and/or write on patent law and patent policy. Although *amici* may differ amongst themselves on other aspects of modern patent law and policy, they are united in their professional opinion that this court should carefully examine the profound implications of the legal tests employed to determine the patent eligibility of computer software and the impact of these legal tests on the patenting of computer software as a whole. They have no stake in the parties or in the outcome of the case.

VI. INTRODUCTION AND SUMMARY OF ARGUMENT

In *Intellectual Ventures v. Symantec*, the district court examined the line between patent-eligible computer-implemented inventions on the one hand, and on the other hand patent-ineligible abstract ideas applied with a generic computer in the absence of an inventive concept. This line is at the core of litigation concerning software patents, 35 U.S.C. § 101 and the common law exceptions for subject matter eligibility. The district court applied the two-step test established by the Supreme Court in *Alice Corp. v. CLS Bank International*. 134 S. Ct. 2347 (2014). For each of the three patents, the district court determined whether the patent was drawn to an abstract idea, and if so, whether there was an inventive concept. It has long been recognized that an application of an abstract idea in a new and useful way “may well be deserving of patent protection.” *Diamond v. Diehr*, 450 U.S. 175, 187 (1981). After *Alice*, the new and useful application described in a patent must be more than simply using a generic computer to implement an abstract idea.

The focus of this brief is on the patentability of software, which is currently threatened by a broad reading of *CyberSource Corp. v. Retail Decisions, Inc.*. 654 F.3d 1366 (Fed. Cir. 2011). The holding of *CyberSource* has been used to support arguments for the invalidation of software patents when the problem addressed by the software could also be solved using mental processes or pen and paper. A broad application of this principle undermines the patentability of all software,

regardless of inventive concept. This outcome would be inconsistent with Congressional intent and Supreme Court precedent.

In applying this argument to the holding of the lower court, we find that the lower court erred concerning the ‘050 patent. The ‘050 patent involves the use of a newly-generated content identifier for emails that an email intermediary then uses for categorizing incoming emails and filtering spam. The court found the ‘050 patent claims to be ineligible for patent protection under Section 101 because documents can be sorted using the human mind, and thus the patent was drawn to an abstract idea. We argue that the court applied the *CyberSource* holding too broadly with respect to the software solution at issue in this case.

VII. ARGUMENT

A. Broad applications of the “human mind” and “pen and paper” tests for abstract ideas undermine the patentability of all software, regardless of inventive concept.

Originally, the word “computer” referred to a person hired to perform calculations. Human calculations can be inconsistent, time-consuming, and filled with errors, so the use of a machine to perform these steps was a significant improvement. As the Supreme Court made clear in *Alice*, the use of electronic computers to perform these types of tasks is now routine and conventional. To establish subject matter eligibility under Section 101, a software patent owner must show that their code does more than merely perform an unpatentable task with a

generic computer. For example, using an electronic computer and a software program to manage a bingo game might have been innovative and patent eligible in the 1970s. Now, however, that merely adds a routine and conventional step to an abstract idea. In the absence of an inventive concept, the bingo management software is likely unpatentable. *Planet Bingo, LLC v. VKGS LLC*, 576 Fed. Appx. 1005 (Fed. Cir. 2014) (nonprecedential opinion holding that computerized bingo game management patent is invalid under Section 101).

Inventive concepts drive innovation forward. When a patent is drawn to an abstract idea, requiring a patent applicant to show “something more” in order to acquire a patent monopoly is completely reasonable. Otherwise, the patent may preempt valuable future innovations by claiming a monopoly on the “building blocks of human ingenuity.” *Alice Corp. Pty. Ltd. V. CLS Bank Intern.*, 134 S. Ct. 2347, 2354 (2014).

Unfortunately, some cases have gone too far in the name of preventing excessive preemption. Broad application of *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011), currently threatens to eliminate any patent eligibility for software, no matter how inventive, because of the “mental processes” and “pen and paper” tests. We therefore urge the Court to substantially limit the reach of these tests for the reasons that follow.

At its core, software programming relies on the ingenuity of the person who is writing the code. The programmer gives the directions that the computer carries out. In order to do this, the programmer must have an idea of what needs to be done and in what order. Thus, all software inherently is based on things that can be calculated using mental processes, because otherwise the programmer would not know what directions to give the computer.

The nature of software also raises practical concerns about the mental process test. By necessity, all computer-implemented processes are fundamentally based on Boolean operations, which can easily be performed in principle by the human mind. Thus, taken to its logical extreme, no applications of computer algorithms would be patent eligible if they are implemented on a general-purpose machine, regardless of how specific, complex or novel they are. Instead, all these applications would be abstract ideas. Moreover, Boolean logic can also be abstracted further into electronic gates in an integrated circuit. Surely, microprocessors are not invalid subject matter because when you put enough people together, they can perform all the calculations of the circuit on paper, albeit more slowly.

Under *Alice*, courts must first examine whether a claim is drawn to an abstract idea. If it is so drawn, the court then looks for an inventive concept. Taken to the extreme, any attempt to establish an inventive concept in software would

fail, because the inventive concept also has to initially come from the programmer's mind and must rely on the same Boolean operations. Relying on the mental process test to determine if a patent is drawn to an abstract idea in step one of the *Alice* test thus threatens to swallow the entirety of the second step of *Alice*. If everything about the software is construed as an abstract idea, then nothing about the software is patentable.

Affirming the lower court's ruling with regard to the '050 patent would facilitate this evisceration of software patentability. In finding the '050 patent to be drawn to an abstract idea, the district court relied in part on deposition testimony that the process described in the '050 patent could be performed by a human, albeit more slowly and with less accuracy. Performing tasks more efficiently and with greater accuracy is a major goal of virtually all software, and adopting the district court's reasoning would undermine software patentability.

A finding that software is unpatentable would be a complete reversal of current law and policy. Section 14 of the Leahy-Smith America Invents Act references tax software as an exception to the Act's general ban on tax strategy patents. Leahy-Smith America Invents Act, Pub. L. No. 112-29, sec. 14(c). Moreover, the Supreme Court found the machine-or-transformation test to not be the sole measure of determining subject matter eligibility, in part because such a holding would create uncertainty for software patentability. *Bilski v. Kappos*, 561

U.S. 593, 605 (2010). Clearly, neither Congress nor the Supreme Court intended for software to be categorically unpatentable. However, this is exactly what will happen if courts continue to broadly apply the mental process test.

Broad applications of the pen and paper test must fail for the same reasons. A human could certainly use a pen and paper to make detailed calculations. However, using a computer for those same calculations is not only more accurate, but also yields much greater efficiency and flexibility. A savvy programmer can use this routine and conventional technology in an unconventional way, thereby establishing an inventive step. If courts place too much focus on the idea of writing out the calculations, courts may lose sight of the contributions made by the software.

In *Alice*, the Supreme Court did not rely on tests that focused on pen and paper or mental processes. The Court instead focused on the patent being drawn to a longstanding economic practice. In the interest of exercising prudence, courts should focus on this concept of a longstanding or fundamental idea, rather than employing an unbounded analyses that focuses on mental processes or written calculations.

B. The ‘050 patent is not invalid for lack of patent-eligible subject matter

1. The ‘050 patent claims require the addition of a new content identifier to facilitate email sorting.

In evaluating subject matter eligibility, district courts often apply the Federal Circuit’s reasoning in *DDR Holdings*, where a claim may possess subject matter eligibility if the patented technology addresses a problem that specifically arose in the context of computers or the Internet. *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). If the problem did not exist before computers, software that addresses this problem is more likely to be patent eligible. However, the Federal Circuit recently identified an abstract idea for an Internet-centric problem, namely “the idea of retaining information in the navigation of online forms.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343 (Fed. Cir. 2015). Because it would lead to an absurd result if Internet-centric abstract ideas could be patent eligible if the problem they addressed was Internet-centric, further qualification is needed. One example that the Supreme Court presented in *Alice* was that an inventive step might be found if the patented invention “improve[s] the functioning of the computer itself.” *Alice Corp. Pty. Ltd. V. CLS Bank Intern.*, 134 S. Ct. 2347, 2359 (2014).

Another valuable clue that focuses on the patent itself is to look for something that is literally added to the process. In *Card Verification Services*, a

pseudorandom number was generated and attached to the credit card data being transferred to verify the transfer's integrity. *Card Verification Solutions, LLC v. Citigroup Inc.*, 2014 WL 4922524 (N.D. Ill. Sep. 29, 2014). Similarly, a patented technology that adds parity bits to a process for identifying errors in data transmission may also be patent eligible. *California Institute of Technology v. Hughes Communications Inc.*, 59 F. Supp. 3d 974 (C.D. Cal. 2014). These added bits provided a literal addition to the abstract idea sufficient to find an inventive step.

The '050 patent claims describe the addition of a content identifier to data being transmitted. This identifier is similar to the bits which were added in the *Hughes* and *Card Verification Services* cases. In all three situations, data which was being transmitted was slightly altered to facilitate the activity described in the claims. The '050 patent is also Internet-centric, though as noted above, this is likely not sufficient by itself to support a finding of eligibility. However, filtering out spam can protect, and perhaps also improve, the functioning of a computer. Therefore, even accepting the characterization of the '050 patent as being directed to the abstract idea of sorting data, these two elements of the '050 patent provide an inventive step sufficient to confer subject matter eligibility.

2. The validity of the ‘050 patent should not turn on the ability of humans to sort documents.

The district court held that the ‘050 patent was drawn to an abstract idea in part because the claims involved the sorting of documents, which is an activity that humans can also perform. However, the ‘050 patent claims are drawn to a process for categorizing emails based on content without the additional risks that may arise if a human opened each email. Depending on the email client and the content of the email, some types of email content may automatically run upon being opened by the end user, creating a hazard that is not present if the emails are filtered with a computer.

In the Interim Guidance that the USPTO issued after *Alice*, the USPTO attempted to address the ambiguity of the “abstract idea” category of exceptions to subject matter eligibility. 2014 Interim Guidance on Patent Subject Matter Eligibility, 79 Fed. Reg. 74618 (Dec. 16, 2014). The Interim Guidance is based on case law which could have very harmful effects on the patentability of software if applied broadly. If a claim amounts to a problem that a person could figure out in their own mind, it may be considered an abstract idea that would be ineligible for patent protection unless there is an inventive concept. One post-*Alice* decision observed that merely “accelerat[ing] an ineligible mental process” does not transform the abstract idea into patent eligible subject matter. *Shortridge v. Foundation Construction Payroll Service, LLC*, 2015 WL 1739256 (N.D. Cal.

April 14, 2015). Courts after *Alice* have often criticized patents for processes that could be figured out in the human mind. *Comcast IP Holdings I, LLC v. Spring Communications Company L.P.*, 55 F.Supp.3d 544 (D. Del. 2014); *Bascom Research LLC v. LinkedIn, Inc.*, 2015 WL 149480 (N.D. Cal. Jan. 5, 2015); *Mortgage Grader, Inc. v. Costco Wholesale Corp.*, 2015 WL 778125 (C.D. Cal. Jan. 12, 2015).

Another recurring argument is the “pen and paper” argument. This argument and the argument that a method must involve steps that could not be performed by the human mind are both supported by the Federal Circuit’s holding in *CyberSource Corp. v. Retail Decisions, Inc.* 654 F.3d 1366 (Fed. Cir. 2011). Like the idea of figuring out a problem mentally, the pen and paper test focuses on the idea that if a task could be completed using a pen and paper, the idea is abstract and not eligible subject matter. *See Cogent Medicine, Inc. v. Elsevier Inc.*, 70 F. Supp. 3d 1058, 1065 (S.D. Cal. 2014); *DietGoal Innovations LLC v. Bravo Media LLC*, 33 F.Supp.3d 271, 284 (S.D.N.Y. 2014); *Planet Bingo, LLC v. VKGS LLC*, 576 Fed.Appx. 1005 (Fed.Cir.2014); *OpenTV, Inc. v. Apple, Inc.*, 2015 WL 1535328 (N.D. Cal., Apr. 6, 2015).

We have argued above that the “mental process” and “pen and paper” exclusions contravene Congressional intent and Supreme Court precedent when applied too broadly. In the *Hughes* case, the patented technology presented a

solution for data corruption that occurs during transmission. *California Institute of Technology v. Hughes Communications Inc.*, 59 F. Supp. 3d 974, 994-95 (C.D. Cal. 2014). The defendant used the pen and paper argument to assert that the abstract idea was not transformed into something patent eligible. The court disagreed, pointing out that “although a computer performs the same math as a human, a human cannot always achieve the same results as a computer.” 59 F. Supp. 3d at 995.

In the instant case, the ‘050 patent claims were held to not possess subject matter eligibility in part because they were drawn to the abstract idea of sorting information. However, as the *Hughes* court makes clear, the fact that a human can perform many of the activities performed by computers does not mean that a human who performs the activity will get the same results as a computer. Involving a computer in the sorting process allows for a more controlled approach to the content of emails than would be achievable if humans were responsible for categorizing email content.

3. The ‘050 patent is not drawn to an abstract idea because practitioners could not get the same result without a computer.

Patent eligibility may also be challenged when a patent addresses a problem that existed and was routinely addressed before computers. This factor may also overlap with the mental process and pen and paper tests. For example, one of the

claims invalidated in *Intellectual Ventures v. Manufacturers and Traders Trust Company* involved a system for letting consumers set a budget for their spending or borrowing, a task that individuals did before computers and can complete with pen and paper. *Intellectual Ventures I LLC v. Manufacturers and Traders Trust Company*, 2014 WL 7215193 (D. Del. Dec. 18, 2014).

The patent in *Alice* was drawn to a longstanding economic practice of mediating settlement risks, and the result from performing the task with a computer would be identical to the result from performing the task without a computer. A logical application of this principle from *Alice* would be to find that if a practitioner could get the *same* result, albeit with less efficiency or accuracy, by performing the task without a computer, then the patent is drawn to an abstract idea. The burden would then fall on the patent owner to establish an inventive concept. Using this type of analysis to identify mere abstract ideas could clarify many issues which have arisen since *Alice*.

The court below asserted that the claims of the ‘050 patent “were not necessarily rooted in computer networks.” While it is true that information can be sorted by humans, and humans have sorted information since long before the availability of electronic computers, the need to filter spam email to avoid malware infections is a problem that arises solely in computer networks. Thus, even though people have been sorting information since long before the Internet and computers,

they were not filtering spam to prevent potential harm to the medium through which the spam was being transmitted. The problem of spam is inextricably tied to computers, and spam could not be filtered without a computer. The claims therefore are “necessarily rooted in computer networks” because practitioners could not get the *same* result without a computer.

C. CONCLUSION

Amici urge this court to reverse the district court’s finding with regard to the ‘050 patent, and to reconsider the use of the “mental process” and “pen and paper” steps in subject matter eligibility analysis of software.

VIII. CERTIFICATE OF COMPLIANCE

I certify that this brief contains 3,012 words excluding the certificate of interest, table of contents, table of citations, and certificates of counsel as determined by Microsoft Office 2010, the word processing system used to prepare the brief, and therefore complies with Federal Rules of Appellate Procedure 29(d) and 32(a)(7)(B).

This brief complies with the requirements of Federal Rules of Appellate Procedure 32(a)(5) and 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word 2010 in 14-point Times New Roman font.

/s/ Jay P. Kesan

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Appendix A

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FORM 30. Certificate of Service

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